

**ABSTRACT OF THE DISCLOSURE**

The present invention provides a gene-targeted, non-human mammal having a gene encoding a mutant protein product of a mutated FAD presenilin-1 (PS-1) gene, a human FAD Swedish mutation, and a humanized A $\beta$  mutation, and generational offspring thereof and a gene-targeted, non-human mammal having a gene encoding a mutant protein product of a mutated FAD PS-1 gene and a human Swedish APP695 mutation, and generational offspring thereof, as well as methods of identifying compounds useful in treating Alzheimer's disease, and to methods of treating Alzheimer's disease.